

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A radiation image signal processing method, comprising the steps of:
 - i) performing image position correcting processing for correcting a low energy image signal and/or a high energy image signal, such that a position of an image, which is represented by the low energy image signal, and a position of an image, which is represented by the high energy image signal, coincide with each other, a pair of corrected original image signals being thereby obtained,
 - ii) performing first energy subtraction processing on the pair of the corrected original image signals, and
 - iii) performing second energy subtraction processing with respect to the low energy image signal and the high energy image signal,
wherein the second energy subtraction processing is performed by the utilization of the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing.

2. (original): A method as defined in Claim 1 wherein the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing, are stored, and

the second energy subtraction processing is performed by the utilization of the pair of the corrected original image signals, which have thus been stored.

3. (original): A method as defined in Claim 1 wherein the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing, are transferred to a certain destination, and

the second energy subtraction processing is performed at the transfer destination by the utilization of the pair of the corrected original image signals, which have thus been transferred.

4. (original): A method as defined in Claim 1, 2, or 3 wherein the image position correcting processing is performed on only the high energy image signal.

5. (original): A radiation image signal processing apparatus wherein:

i) image position correcting processing is performed for correcting a low energy image signal and/or a high energy image signal, such that a position of an image, which is represented by the low energy image signal, and a position of an image, which is represented by the high energy image signal, coincide with each other, a pair of corrected original image signals being thereby obtained,

ii) first energy subtraction processing is performed on the pair of the corrected original image signals, and

iii) second energy subtraction processing is performed with respect to the low energy image signal and the high energy image signal,

the second energy subtraction processing being performed by the utilization of the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing.

6. (original): An apparatus as defined in Claim 5 wherein the apparatus comprises:

- a) common energy subtraction processing means for performing the first energy subtraction processing and the second energy subtraction processing,
- b) storage means for storing the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing,
- c) instruction means for outputting an instruction for performing the second energy subtraction processing, and
- d) control means for controlling the common energy subtraction processing means in accordance with the instruction, which has been outputted from the instruction means, such that the common energy subtraction processing means performs the second energy subtraction processing by the utilization of the pair of the corrected original image signals, which have been stored in the storage means.

7. (original): An apparatus as defined in Claim 5 wherein the apparatus comprises:

- a) first energy subtraction processing means for performing the first energy subtraction processing,
- b) second energy subtraction processing means for performing the second energy subtraction processing,

c) storage means for storing the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing,

d) instruction means for outputting an instruction for performing the second energy subtraction processing, and

e) control means for controlling the second energy subtraction processing means in accordance with the instruction, which has been outputted from the instruction means, such that the second energy subtraction processing means performs the second energy subtraction processing by the utilization of the pair of the corrected original image signals, which have been stored in the storage means.

8. (original): An apparatus as defined in Claim 5 wherein the apparatus comprises:

a) first energy subtraction processing means for performing the first energy subtraction processing,

b) second energy subtraction processing means for performing the second energy subtraction processing,

c) instruction means for outputting an instruction for performing the second energy subtraction processing, and

d) control means for transferring the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing, to the second energy subtraction processing means, and controlling the second energy subtraction

processing means in accordance with the instruction, which has been outputted from the instruction means, such that the second energy subtraction processing means performs the second energy subtraction processing by the utilization of the pair of the corrected original image signals, which have thus been transferred.

9. (original): An apparatus as defined in Claim 5, 6, 7, or 8 wherein the image position correcting processing is performed on only the high energy image signal.

10. (previously presented): A method as defined in Claim 1, wherein the first energy subtraction processing is performed by a first energy subtraction processing means, and wherein the second energy subtraction processing is performed by a second energy subtraction processing means.

11. (previously presented): A method as defined in Claim 1, wherein the image position correcting processing is performed by an image position correcting means which receives the low energy image signal and the high energy image signal from a buffer memory which temporarily stores the low energy image signal and the high energy image signal.

12. (previously presented): A method as defined in Claim 11, wherein the buffer memory receives the low energy image signal and the high energy image signal from a radiation image recording and read-out apparatus.

13. (previously presented): A method as defined in Claim 1, wherein an image position correcting means outputs the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing to a storage means, and

wherein the pair of the corrected original image signals are transferred from the storage means to a common energy subtraction processing means when an instruction means outputs an instruction to a control means which controls the common energy subtraction processing means such that the common energy subtraction processing means performs the second energy subtraction processing by the utilization of the pair of the corrected original image signals.

14. (previously presented): A method as defined in Claim 3,
wherein the transfer destination is a common energy subtraction processing means, and
wherein the first energy subtraction processing and the second energy subtraction processing is performed by the common energy subtraction processing means.

15. (previously presented): An apparatus as defined in Claim 5, wherein the image position correcting processing is performed by an image position correcting means which receives the low energy image signal and the high energy image signal from a buffer memory which temporarily stores the low energy image signal and the high energy image signal.

16. (previously presented): An apparatus as defined in Claim 15, wherein the buffer memory receives the low energy image signal and the high energy image signal from a radiation image recording and read-out apparatus.

17. (previously presented): An apparatus as defined in Claim 5,
wherein an image position correcting means outputs the pair of the corrected original image signals, which have been obtained at the time of the first energy subtraction processing to a storage means, and

wherein the pair of the corrected original image signals are transferred from the storage means to a common energy subtraction processing means when an instruction means outputs an instruction to a control means which controls the common energy subtraction processing means such that the common energy subtraction processing means performs the second energy subtraction processing by the utilization of the pair of the corrected original image signals.

18. (previously presented): An apparatus as defined in Claim 6, wherein an image position correcting means outputs the pair of the corrected original image signals, which have been stored in the storage means, to the common energy subtraction processing means for performing the second energy subtraction processing.

19. (previously presented): An apparatus as defined in Claim 6, wherein an image position correcting means outputs the pair of the corrected original image signals to the common energy subtraction processing means for performing the first energy subtraction processing.

20. (previously presented): An apparatus as defined in Claim 6,
wherein a buffer memory receives the low energy image signal and the high energy image signal from a radiation image recording and read-out apparatus and,
wherein the buffer memory outputs the low energy image signal and the high energy image signal to an image position correcting means which performs the image position correcting processing.

21. (previously presented): An apparatus as defined in Claim 7, wherein an image position correcting means outputs the pair of the corrected original image signals to a storage means, and to the first energy subtraction processing means, the first energy subtraction

processing means generates an energy subtraction image signal by utilizing the pair of the corrected original image signals received from the image position correcting means.

22. (previously presented): An apparatus as defined in Claim 7, wherein an image position correcting means outputs the pair of the corrected original image signals to a signal transfer cable, the signal transfer cable transfers the pair of the corrected original image signals to a filing device which stores the pair of the corrected original image signals.

23. (previously presented): An apparatus as defined in Claim 7, wherein a filing device outputs the pair of the corrected original image signals to a signal transfer cable which transfers the pair of the corrected original image signals to a buffer memory, the buffer memory outputs the pair of the corrected original image signals to the second energy subtraction processing means which generates an energy subtraction image signal by utilizing the pair of the corrected original image signals.

24 (new): The apparatus of claim 6 wherein the instruction means receives an instruction from a user regarding the second energy subtraction processing prior to outputting the instruction for the second energy subtraction processing.

25 (new): The apparatus of claim 7, wherein the first energy subtraction processing means and second energy subtraction processing means are physically separated.

26 (new): The apparatus of claim 25, wherein the instruction means receives an instruction from a user regarding the second energy subtraction processing prior to outputting the instruction for the second energy subtraction processing.

27 (new): The apparatus of claim 5, wherein the first energy subtraction processing provides a first observation image, and the wherein the second energy subtraction processing provides a second observation image.